

# Lossless Variable-bit Compression

## ABSTRACT OF THE DISCLOSURE

Apparatus and methods for compressing data points. The invention compresses the representation of a sequence of points in a space by, for example, dividing the sequence of points into segments of successive points and then compressing each of the segments irrespective of the compression applied to the other segments. The dividing may include dividing the points sequence into segments of  $S$  successive points. The value of  $S$  may be the value of  $S$  generating the smallest of the multiple compressions. The compression may include compressing each of the segments of  $S$  successive,  $i$ -bit points into segments of  $j$ -bit points, where  $j \leq i$ ,  $j$  may vary from segment to segment and, for any given segment,  $j$  is the minimum number of bits necessary to represent the data in that given segment.